TO: Kelsey Hawkins, CEQA Project Manager; Harris & Associates
FROM: Jonathan Sanchez, PE, TE, PTOE; CR Associates
Phuong Nguyen, PE; CR Associates
DATE: October 31, 2025
RE: East Harbor Island Redevelopment/Topgolf Project – Parking Analysis – Phase 1

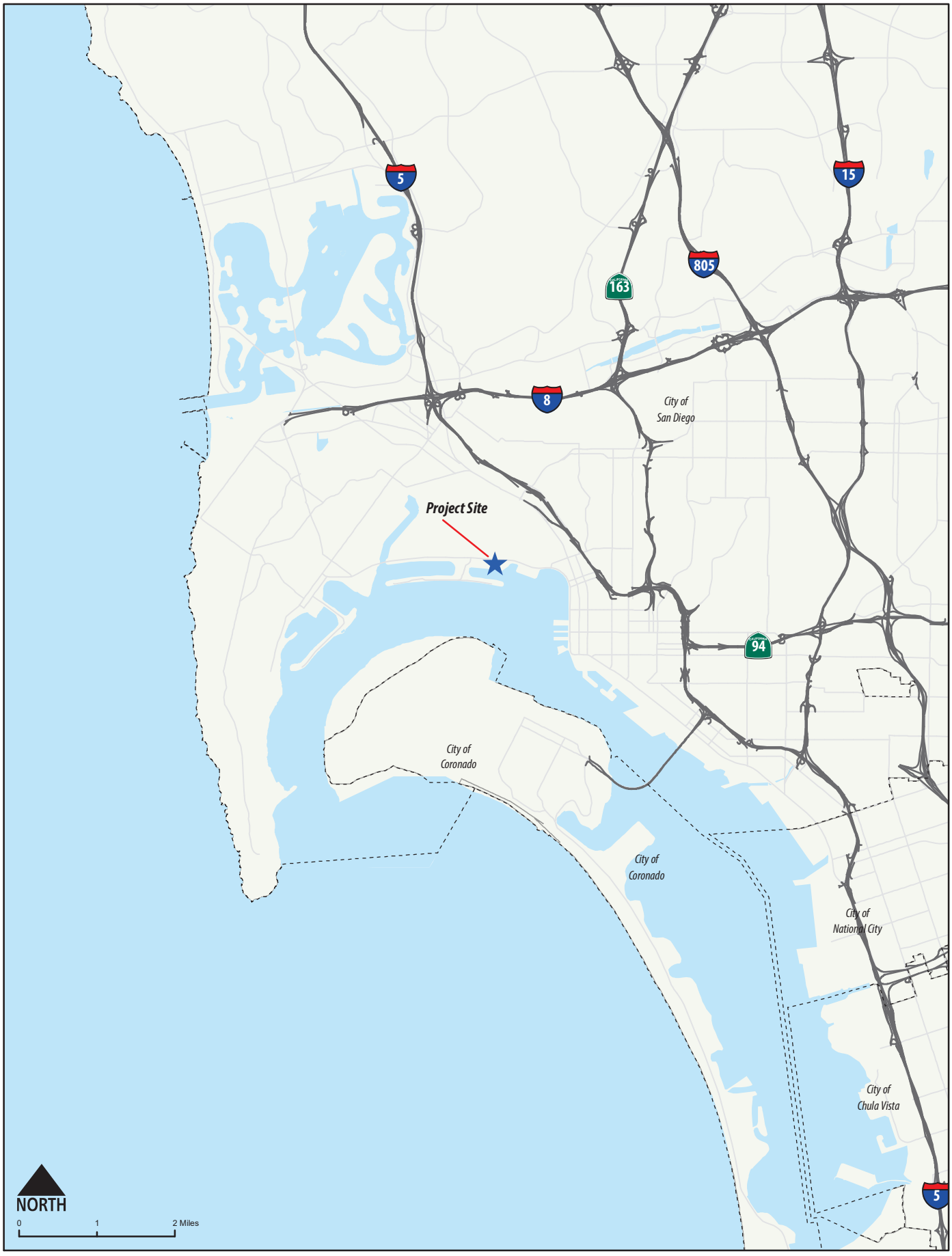
The purpose of this technical memorandum is to document the parking analysis conducted for the East Harbor Island Redevelopment/Topgolf project (the "Project"). The Project is within the East Harbor Island Subdistrict of Planning District 2 of the Port Master Plan (PMP), which envisioned other hospitality and coastal land uses within East Harbor Island. To optimize land use on East Harbor Island in alignment with the PMP, it is assumed that the Project and surrounding land uses will utilize a shared parking facility. Given that the specific uses of adjacent lands are currently undetermined, this analysis is centered on the parking requirements anticipated upon the Project's finalization, also known as Phase 1 of the East Harbor Island Subdistrict redevelopment. Parking assessments for later phases are detailed in a separate technical document.

Project Description

The East Harbor Island Redevelopment/Topgolf Project and Port Master Plan Amendment plans to redevelop portions of East Harbor Island. The Project site is approximately 38 acres of land generally bounded to the north by North Harbor Drive and the San Diego International Airport, to the west by Harbor Island Drive, to the south by Liberator Way and the East Basin portion of San Diego Bay, and to the east by the Convair Lagoon portion of San Diego Bay. Approximately 19.9 acres of the Project site is planned for redevelopment (East Harbor Island redevelopment area). The Project site is currently occupied by the San Diego Harbor Police headquarters; Avis, Enterprise, and Hertz rental car companies; and San Diego International Airport temporary construction staging facilities. Existing structures on site include several one- and two-story buildings, various small structures, surface parking lots, fencing, and limited vegetation. Much of the Project site shoreline is covered with a combination of riprap and concrete and asphalt sloped pavement.

Project components include demolition and removal of existing structures and improvements, realignment of Liberator Way, redevelopment of approximately 10 acres for the Topgolf entertainment complex (108 hitting bays), a parking lot with approximately 289 parking stalls, and development of a new waterfront park and promenade (approximately 10.1 acres). The existing San Diego Harbor Police headquarters located on the western side of East Harbor Island would remain in place.

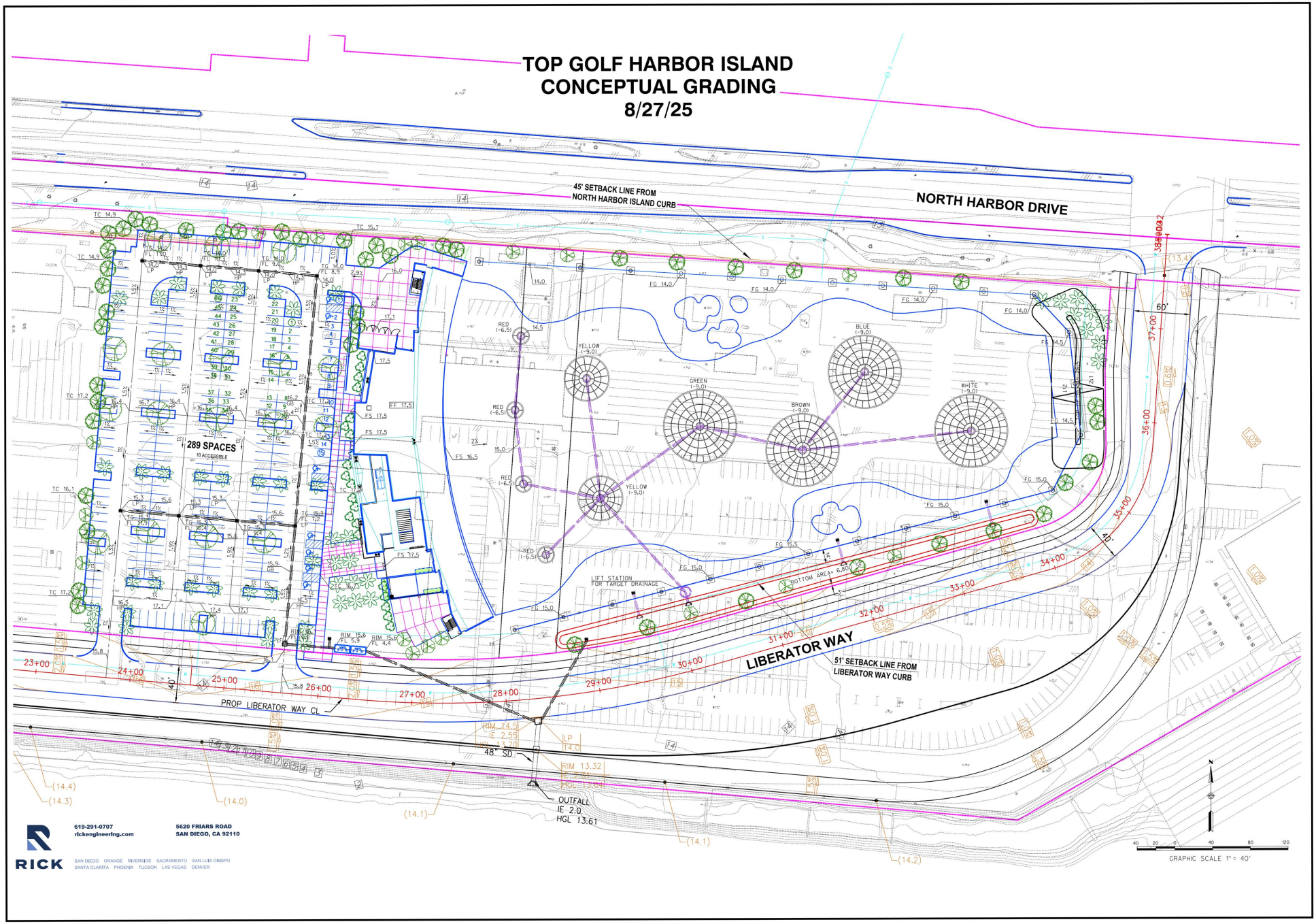
This Parking Analysis will focus primarily on the Topgolf portion of the development and the adjacent public park. **Figure 1** displays the Proposed Project's regional location. **Figure 2** displays the Proposed Project's site plan.



East Harbor Island Redevelopment/Topgolf Project
Parking Analysis – Phase 1

C+R

Figure 1
Project Regional Location



East Harbor Island Redevelopment/Topgolf
Project Parking Analysis – Phase 1

C+R

Figure 2
Proposed Project Site Plan

Project Parking Analysis

The parking demand analysis was conducted for the two land uses associated with the Project, namely the Topgolf development and the improvement of approximately 10 acres of park improvements, which includes a waterfront park and promenade adjacent to the Topgolf site. The parking analysis was conducted using the parking rates identified in the San Diego Unified Port District Tidelands Parking Guidelines (Parking Guidelines) and the parking generation rate obtained from other Topgolf parking studies. Excerpts of both documents are provided in **Attachment A**.

The Parking Guidelines, which were adopted in 2001, provide parking demand rates for various land uses within the Port of San Diego area, taking into account each land use proximity to parking reduction amenities such as proximity to transit, the San Diego Airport, and potential for shared parking. **Table 1** displays the adjustment factor for each of the amenities.

Table 1 - Parking Adjustment Factors from Parking Guidelines

Factor	High	Medium	Low
Transit	0.90	0.95	0.99
Airport	0.97	0.99	1.00
Shared Parking	0.80	0.90	0.95
Waterfront	0.93	0.95	0.99

The Parking Guidelines specify a revised parking generation rate of 3.04 spaces per acre for public parks on Harbor Island. However, they do not specify a rate for land uses similar to Topgolf. Thus, a rate of 3.89 parking spaces per hitting bay for Topgolf was sourced from a parking study conducted in Scottsdale for a Topgolf facility.

The Scottsdale Topgolf study did not consider factors such as transit, airport proximity, shared parking, and ridesharing impacts. Therefore, adjustments from the Parking Guidelines and ridesharing adjustments based on data from Replica[1] were applied.

- Transit: Due to the Project's proximity to multiple bus routes, Santa Fe Depot, nearby trolley stations, water taxi, as well as the future mobility hub and the Bayfront Circulator, a medium adjustment factor (0.95) was applied.
- Airport: Low adjustment factor (0.99), while some of the travelers may stay at a nearby hotel and patronize Topgolf, due to uncertainty regarding actual usage, a low adjustment factor of 0.99 was applied.
- *Shared Parking:* In the final stages of development, the Topgolf facility will share parking spaces, but as of now, it does not share parking with any other land uses. Therefore, the "Shared Parking" adjustment was not included in the calculation.
- *Waterfront:* Given the possibility that Topgolf patrons might dine at nearby restaurants like C-level before or after their Topgolf visit, an adjustment factor of 0.95 was applied.
- *Ride Sharing:* Since the Parking Guidelines were completed in 2001, prior to the advent of rideshares (Uber started in 2009), a parking adjustment factor to account for parking reduction due to ridesharing was not available in the parking guidelines. Research has

[1] Replica is a data provider that produces large-scale models to represent mobility throughout the United States. For more information, please visit the following: https://replicahq.com/.

shown that ridesharing reduces parking demand[2] in areas with limited parking such as East Harbor Island.

The reduction in ride sharing was determined using mobility data from Replica, a mobility and big data platform. According to Replica, about 26% of the trips ending at Harbor Island are rideshare trips, likely due to popular restaurants and a hotel in the area. The data was also used to identify rideshare trips associated with Las Vegas Top Golf, which make up 32% of total person trips. Therefore, a conservative estimate of a 26% reduction, based on the existing Harbor Island trip split, was applied to the parking demand.

Table 2 displays a summary of the parking demand calculations. Excerpts from Replica are provided in Attachment A.

Table 2 - Parking Demand Calculations

Land Use / Adjustment Type	Amount	Type	Parking Rate/Adjustment Rate	Parking Demand
Topgolf Unadjusted Parking Demand	108	Hitting Bays	3.89	421
Transit Adjustment			0.95	-22
Airport Adjustment			0.99	-5
Shared Parking Adjustment			1.00	0
Waterfront Proximity Adjustment			0.95	-22
Rideshare Adjustment			0.74	-110
Topgolf Adjusted Parking Demand				**262**
Topgolf Parking Inventory				**289**
Available Parking Spaces				**27**
Active Park Adjusted Parking Demand	10.1	Acres	3.04	31
Public Parking Inventory (not for Top Golf)				**180**
Available Public Parking Spaces				**149**

According to Table 2, the anticipated parking demand for Topgolf is 262 vehicles, indicating the proposed 289 parking spaces would be sufficient to accommodate the anticipated parking demand.. The public park's parking demand is estimated at 31 spaces, which could be met by re-striping Liberator Way. Liberator Way, stretching about 2,300 feet, could accommodate up to 90 parking spaces on each side, totaling 180 spaces for public use.

[2] https://www.nrel.gov/docs/fy19osti/73889.pdf

Conclusion and Recommendations

While the total parking spaces are sufficient for Topgolf and coastal visitors, several parking management strategies are recommended for optimum parking management:

- Implementing and enforcing parking time restrictions for both Topgolf and along Liberator Way to ensure spaces serve their intended users and reduce long-term parking by airport users.
- Establish a parking permit program for Topgolf employees, offering discounted rates, valid only within the Topgolf lot and not on Liberator Way.

Further parking management recommendations, such as shared parking, enforcement, and validation programs for Topgolf or adjacent properties, should be addressed as other developments come onboard.

Attachment A -
Excerpt of Parking Guidelines, Topgolf Parking Study, and Replica Mode Split

Parking Guidelines Excerpt

San Diego (Unified Port District) - Tidelands Parking Guidelines
Appendix Table A-1
Detailed Parking Demand Calculations / Assumptions

Land Use	Unit	Harbor Is.	Shelter Is.	No. Emb.	Coronado	Nat'l City	Chula Vista	Imp. Bch.
Restaurant	seat	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Restaurant	ksf	10	10	10	10	10	10	10
Marine Sales/Ser.	Net ksf	4	4	4	4	4	4	4
Marina	slip	1	1	1	1	1	1	1
Retail	ksf	5	5	5	5	5	5	5
Park	acre	3.8	3.9	50*	3.3	2	2	2
Office	ksf	3	3	3	3	3	3	3
Residential	bedroom	1	1	1	1	1	1	1

** As printed in source; likely intended as 5.0.*

ULI	HSA
0.3	0.2
20	10
4	2
3	
1	

Restaurant	seat
Restaurant	ksf
Marine Sales/Serv.	Net ksf
Marina	slip
Retail	ksf
Park	acre
Office	ksf
Residential	bedroom

Land Use	Unit	Harbor Is.	Shelter Is.	No. Emb.	Coronado	Nat'l City	Chula Vista	Imp. Bch.
Hotel	room	0.5	0.9	0.45	0.9	1.4	1.5	1.5
Hotel Restaurant	seat	0.10	0.13	0.10	0.10	N/A	N/A	N/A
Hotel Restaurant	ksf	6.7	8.3	6.7	0.10	N/A	N/A	N/A
Hotel Conf.	ksf	1	1.5	1	1.5	N/A	N/A	N/A
Hotel Dock Slip	unit	0.25	0.25	0.25	0.25	N/A	N/A	N/A
Hotel Retail	ksf	2	2	2	2	N/A	N/A	N/A

Discount Factor	Harbor Is.	Shelter Is.	No. Emb.	Coronado	Nat'l City	Chula Vista	Imp. Bch.
Transit	low	low	high	low	medium	low	low
Access to Airport	high	medium	high	medium	low	low	low
Sharing Potential	high	medium	high	medium	low	low	low
Peak Period	Same	Weekend	Weekday	Same	-	-	-

Factor	High	Medium	Low
Transit	0.9	0.95	0.99
Airport	1	0.97	0.99
Shared?	0.8	0.9	0.95
Pk Time	1	1	1

Same *Weekend* *Weekday*

Factor	Harbor Is.	Shelter Is.	No. Emb.	Coronado	Nat'l City	Chula Vista	Imp. Bch.
Transit	0.99	0.99	0.9	0.99	0.95	0.99	0.99
Airport	0.95	0.97	0.95	0.97	0.99	0.99	0.99
Sharing Potential	0.8	0.9	0.8	0.9	0.95	0.95	0.95
Peak Period	1	1	1	1	1	1	1

Land Use	Unit	Harbor Is.	Shelter Is.	No. Emb.	Coronado	Nat'l City	Chula Vista	Imp. Bch.
Restaurant	seat	0.11	0.13	0.10	0.13	0.13	0.14	0.14
Restaurant	ksf	7.52	8.64	6.84	8.64	8.93	9.31	9.31
Marine Sales/Ser.	Net ksf	3.20	3.57	3.21	3.63	3.78	3.91	3.91
Marina	slip	0.80	0.89	0.80	0.91	0.94	0.95	0.95
Retail	ksf	3.76	4.32	3.42	4.32	4.47	4.66	4.66
Park	acre	3.04	3.39	36.21	2.92	1.32	1.98	1.89
Office	ksf	2.40	2.59	2.17	2.66	2.72	2.82	2.82
Residential	bedroom	0.99	0.99	0.90	0.99	0.95	0.98	0.98

**Reconstructed for legibility*

Land Use	Unit	Harbor	Shelter	No.Emb.	Coronado	Nat'l City	Chula V.	Imp.Bch.
Restaurant	seat	0.20	-	0.50	0.40	-	n/a	n/a
Restaurant	ksf	4.80	-	10.40	5.50	10.00	n/a	n/a
Marine Sales/Serv.	Net ksf	2.60	2.60	2.60	2.60	-	n/a	n/a
Marina	slip	0.50	-	0.50	0.50	-	n/a	n/a
Retail	ksf	5.00	-	5.50	3.00	5.00	n/a	n/a
Park	acre	3.80	-	60.00	3.30	-	n/a	n/a
Office	ksf	-	-	2.00	-	-	-	-
Residential	bedroom	-	-	1.00	-	-	-	-

Replica Excerpt (Replica Places)

This table displays the total number of vehicle-based trips to Harbor Island, categorized into private auto trips and on-demand auto trips. Between October 26, 2019, and December 21, 2019, there were 131,594 auto-related trips, with 33,946 being on-demand trips and 97,648 being private auto trips. Consequently, 25.8% of the trips were on-demand trips.

week_starting	destination_geo_id	destination_geo_name	private_auto_trip_count	on_demand & other modes auto_trip_count	Total
10/26/2019	3785	TAZ 3785	4001	1449	5450
11/2/2019	3785	TAZ 3785	4585	1673	6258
11/16/2019	3785	TAZ 3785	4325	1615	5940
11/30/2019	3785	TAZ 3785	4274	1399	5673
10/19/2019	3785	TAZ 3785	4047	1454	5501
11/9/2019	3785	TAZ 3785	4077	1508	5585
12/7/2019	3785	TAZ 3785	4253	1394	5647
9/28/2019	3785	TAZ 3785	4562	1766	6328
8/24/2019	3785	TAZ 3785	4398	1679	6077
10/12/2019	3785	TAZ 3785	4416	1614	6030
9/21/2019	3785	TAZ 3785	5055	1735	6790
10/5/2019	3785	TAZ 3785	4614	1506	6120
9/7/2019	3785	TAZ 3785	4848	1691	6539
11/23/2019	3785	TAZ 3785	4716	1540	6256
12/14/2019	3785	TAZ 3785	5330	1648	6978
8/17/2019	3785	TAZ 3785	4729	1552	6281
8/31/2019	3785	TAZ 3785	4726	1646	6372
8/10/2019	3785	TAZ 3785	5067	1629	6696
9/14/2019	3785	TAZ 3785	5415	1908	7323
8/3/2019	3785	TAZ 3785	5244	1793	7037
12/21/2019	3785	TAZ 3785	4966	1747	6713
		Total	97,648	33,946	
		Total Trips	131594		
		Ratio of Rideshare to Total auto trips	25.80%		

Las Vegas Top Golf Validation

Additional validation was conducted for the Las Vegas Top Golf located at 4627 Koval Ln, Las Vegas, NV 89109. The facility has 120 hitting bays and 228 parking spaces, averaging about 1.9 parking spaces per bay. In comparison, the San Diego Top Golf averages about 2.6 parking spaces per bay, indicating that the Las Vegas location provides significantly fewer parking spaces per bay.

To assess if the Las Vegas Top Golf parking lot adequately meets parking demand, the project team reviewed historical parking data using aerial images from Nearmap. These images, taken between February 18, 2024, and February 3, 2024, showed that the parking lot rarely reached full capacity. Out of the 14 days with available images, the highest occupancy was 82% on Sunday, June 13, 2021, and 78% on Friday, September 23, 2022. Screenshots of these two days are provided below.



Additionally, the project team analyzed data from Replica to determine the proportion of patrons arriving at Las Vegas Top Golf via rideshare services versus private vehicles. According to Replica, of the 973 trips to Las Vegas Top Golf (classified as a non-retail attraction), 311 trips (32%) were made using on-demand ridesharing services, and 636 trips were made using private autos. The table below summarizes the percentage breakdown of trips by auto mode.

Replica Mode Split

Mode	Amount	Percentage
on_demand_auto	311	32.00%
other_travel_mode	26	3.00%
private_auto	636	66.00%
Total	973	

Topgolf Parking Study

APPENDIX E: PARKING OCCUPANCY DATA



Since Topgolf is a new and unique type of facility, the City of Burlingame, Institute of Transportation Engineers (ITE), and the Urban Land Institute (ULI) do not have parking supply or demand rates that appropriately reflect such a use. In order to determine the parking demand for the Topgolf facility, parking occupancy surveys that Fehr & Peers collected in August 2014 at an existing Topgolf facility located in Scottsdale, Arizona were utilized. The Scottsdale Topgolf site is self-contained, meaning that it is the only use on the site; therefore, the counts can easily be converted to parking generation rates for other Topgolf sites. For consistency with the Project's trip generation approach, parking demand for the proposed Topgolf are based on the number of hitting bays at the facility.

8.2.3.3 Topgolf Parking Demand

The resulting parking rate of 3.89 spaces per hitting bay was derived from the parking occupancy data for the Topgolf in Scottsdale (see **Appendix E** for parking occupancy survey data). For conservative purposes, this parking demand rate reflects peak conditions because it reflects the maximum parking occupancy at the existing site that occurred at 7 PM on a Saturday. Using the Topgolf-specific parking demand rate, the Topgolf facility that will be part of the proposed Project is estimated to have a peak parking maximum demand of 397 spaces (based on 102 bays) or 467 spaces (based on a maximum of 120 bays).

8.2.3.4 Topgolf Parking Supply

In addition to deriving a parking demand rate for the Topgolf, a parking supply rate was also developed by increasing the Topgolf parking demand rate by 10%. Application of this factor would yield an effective supply or "cushion" of extra spaces that a parking system should have to account for operating fluctuations, vehicle maneuvering, minimizing driver frustration, and maintaining adequate traffic circulation. It is unrealistic to expect an arriving driver to find the last available parking space in a system without significant frustration and the resulting perception that parking is inadequate. Because "perception is reality", parking "demand" should include this effective supply cushion (*Parking Structure – Planning, Design, Construction and Repair,* 3rd edition (Anthony P Chrest… et al., 2001.) For the purpose of this parking analysis, a parking facility is considered to have reached its effective supply, or practical parking capacity, if 90% of the spaces are utilized. A 10% surplus is widely accepted in the parking industry as adequate cushion for parking.

The resulting recommended parking supply for the Topgolf facility is 437 spaces for 102 bays or 514 spaces for the maximum 120 bays in order to accommodate peak parking demand, circulation and operating fluctuations, and vehicle maneuvering as drivers search for available spaces. Therefore, the provided 475 spaces exceeds the peak demand for a 102-bay facility. The proposed 475 spaces would meet the peak demand for 111 bays.

Topgolf Scottsdale
Parking Lot Counts

Area	**Friday PM**		**Saturday Evening**				**Sunday Morning**		
	5:00 PM	6:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	10:00 AM	11:00 AM	12:00 AM
Lot 1	125	131	136	140	142	148	75	99	109
Lot 2	126	145	168	178	174	177	68	99	112
Lot 3	11	12	14	45	55	72	11	12	13
Total	262	288	318	363	371	397	154	210	234

Traffic Research & Analysis, Inc.

Topgolf - Scottsdale Parking Study

Date: Friday 8/22/14 **NAME:**

LOT #1					
TIME					
17:00	**125**				
18:00	**131**				

LOT #2					
TIME					
17:00	**126**				
18:00	**145**				

Overflow Parking - All section 3					
TIME					
17:00	**11**				
18:00	**12**				

REMARKS:

Overflow Parking includes roadway from Topgolf to Hampton Inn.

Topgolf - Scottsdale Parking Study

Date: Saturday 8/23/14 **NAME:**

LOT #1					
TIME					
16:00	**136**				
17:00	**140**				
18:00	**142**				
19:00	**148**				

LOT #2					
TIME					
16:00	**168**				
17:00	**178**				
18:00	**174**				
19:00	**177**				

Overflow Parking - All section 3					
TIME					
16:00	**14**				
17:00	**45**				
18:00	**55**				
19:00	**72**				

REMARKS:

Overflow Parking includes roadway from Topgolf to Hampton Inn.

Topgolf - Scottsdale Parking Study

Date: Sunday 8/24/14 **NAME:**

LOT #1					
TIME					
10:00	**75**				
11:00	**99**				
12:00	**109**				

LOT #2					
TIME					
10:00	**68**				
11:00	**99**				
12:00	**112**				

Overflow Parking - All section 3					
TIME					
10:00	**11**				
11:00	**12**				
12:00	**13**				

REMARKS:

Overflow Parking includes roadway from Topgolf to Hampton Inn.